

Pumping begins on Tank C-106

Geoff Tyree, CH2M HILL Hanford Group

Crews have begun removing radioactive waste from Tank-C-106, one of the oldest waste tanks at Hanford and the first Hanford tank to be closed. It's a cleanup job that's being watched closely by the Department of Energy and the agencies that regulate Hanford cleanup.

Approximately 18,000 gallons of liquid waste were transferred from the single-shell tank into double-shell Tank AY-102 last Wednesday. Now the DOE Office of River Protection and cleanup contractor CH2M HILL Hanford Group will prepare to remove the last 10,000 gallons of thick sludge waste in the tank.

C-106 was built in 1943, one of the first of 177 large underground tanks constructed at Hanford over the decades to store 53 million gallons of radioactive and hazardous waste. A misrouted transfer of strontium waste from a Hanford processing facility in the 1970s deposited waste inside C-106 that was so hot that the waste boiled.

The heat problem put the 530,000-gallon tank on a congressional watch list of 60 dangerous Hanford waste tanks. In the late 1990s, most of the waste in C-106 — about 186,000 gallons containing 4.4 million curies of radioactivity — was transferred to another tank to solve the high-heat problem.

The retrieval of the Tank C-106 waste and the tank's closure are being carried out under an "accelerated closure demonstration" agreement with Hanford's regulators. The experience and information gained as waste is removed from C-106 will help guide decisions by DOE, CH2M HILL and the regulatory agencies and stakeholders on the appropriate regulatory and technical pathway for closing the rest of Hanford's tanks.



Crews suit up for the final "pull" to complete a pump replacement job at Tank C-106. The Enhanced Work Planning process was successful in coming up with varied approaches to pulling a stuck pump from the tank, while working safely around chemical and radiological hazards.



In March, Hanford crews replaced a 50-year-old pump in single-shell Tank C-106 to prepare for this month's start of waste-retrieval operations. C-106 is the first Hanford tank selected for closure.

"The next steps for cleaning up this tank include adding a light acid to dissolve the sludge waste, and pumping the rest of the waste out," said Ryan Dodd, CH2M HILL vice president of Closure Projects. "A key part of our preparation for the sludge waste removal was completed in March with the replacement of a 50-year-old pump that had become stuck after decades of heating and cooling cycles in the tank."

According to the Tri-Party Agreement, all of the waste in C-106 must be retrieved by November 2003. The pathway for closure and other tank-cleanup decisions will be captured in the form of an environmental impact statement, which would support a decision by DOE in April 2004.

Accelerated cleanup plans call for closing up to 40 of Hanford's older single-shell tanks by October 2006. ■